

Version with Markings to Show Changes Made - 127 -

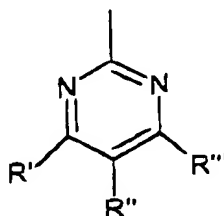
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4. Claim 1,
Compounds according to any of the preceding claims

5

where

R¹ represents a radical of the formula



10

in which

15

R' represents NH₂.

R'' represents optionally substituted morpholinyl, piperidinyl, piperazinyl, pyrrolidinyl, triazolyl or thiomorpholinyl

20

and

R''' represents hydrogen or NH₂.

25

5. Compounds according to Claim 4 in which R'' represents morpholinyl.

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6. Process for preparing the compounds of the general formula (I) according to Claim 1,
 characterized in that
 depending on the various meanings of the heterocycles listed above under R^2
 and R^3

[A] compounds of the general formula

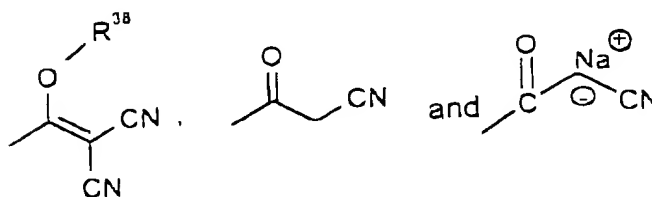


in which

R^1 is as defined above *in Claim 1,*

and

D represents radicals of the formulae

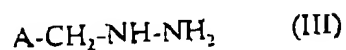


in which

R^{18} represents C_1 - C_{10} -alkyl

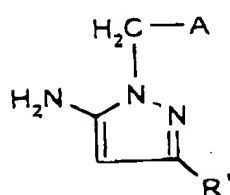
are converted, by reaction with compounds of the general formula (III)

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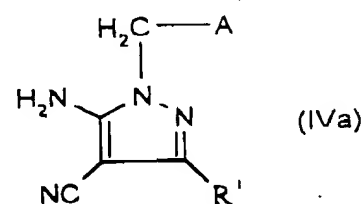


in which

5 A is as defined above *in Claim 1*,
 in inert solvents, ~~if appropriate in the presence of a base~~, into the compounds of
 the general formula (IV) or (IVa)



(IV) and



(IVa)

10

in which

A and R' are each as defined above

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in Claim 1

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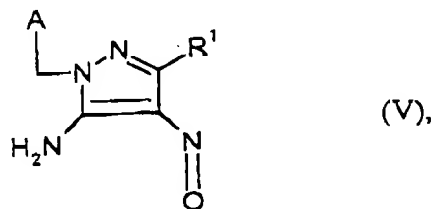
and, in the case of the compounds of the general formula (IVa), are
 subsequently cyclized with carboxylic acids, nitriles, formamides or
 guanidium salts,

25

and, in the case of the compounds of the general formula (IV), are
 cyclized with 1,3-dicarbonyl derivatives, their salts, tautomers, enol
 ethers or enamines, in the presence of acids and ~~if appropriate, under~~
~~microwave irradiation.~~

or

[B] in the case that R^2 and R^3 together form a pyrazine ring, compounds of the general formula (IV) are initially converted by nitrosation into the compounds of the general formula (V)

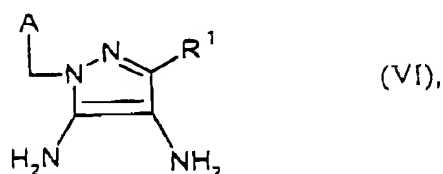


in which

10 A and R^1 are each as defined above,

in Claim 1

in a second step, the compounds of the general formula (VI)



in which

20 A and R^1

are each as defined above *in Claim 1,*

are prepared by a reduction.

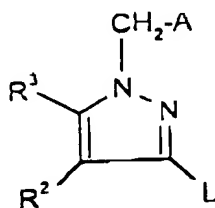
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and these are subsequently cyclized with 1,2-dicarbonyl compounds, ~~preferably~~
~~aqueous glyoxal solution,~~

or

5

[C] compounds of the general formula (VII)



(VII),

in which

10

A¹, R² and R³ are each as defined above *in Claim 1,*

and

15

L represents a radical of the formula -SnR³⁹R⁴⁰R⁴¹, ZnR⁴², iodine, bromine or triflate

in which

20

R³⁹, R⁴⁰ and R⁴¹ are identical or different and each represents straight-chain or branched alkyl having up to 4 carbon atoms

and

25

R⁴² represents halogen

are reacted with compounds of the general formula (VIII)

5

R^1-T (VIII),

in which

R^1 is as defined above *in Claim 1,*

10

and

in the case that $L = SnR^{39}R^{40}R^{41}$ or ZnR^{42} ,

15

T represents triflate or represents halogen, ~~preferably bromine~~

and,

in the case that $L =$ iodine, bromine or triflate,

20

T represents a radical of the formula $SnR^{39}R^{40}R^{41}$, ZnR^{42} or $BR^{43}R^{44}$

in which

25

R^{39} , R^{40} , R^{41} and R^{42} have the meanings of R^{39} , R^{40} , R^{41} and R^{42} given above and are identical to or different from them,

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R^{43} and R^{44} are identical or different and each represents hydroxyl, aryloxy having 6 to 10 carbon atoms or straight-chain or

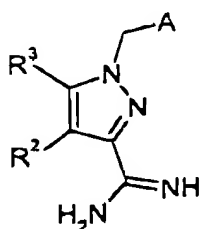
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branched alkyl or alkoxy having in each case up to 5 carbon atoms, or together form a 5- or 6-membered carbocyclic ring

in a palladium-catalysed reaction in inert solvents, ~~if appropriate in the presence of a base,~~

or

[D] in the case that R¹ represents an optionally substituted pyrimidine radical, amidines of the general formula (IX)

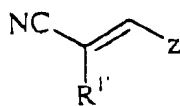


(IX),

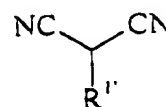
in which

A, R² and R³ are each as defined above in *Claim 1*,

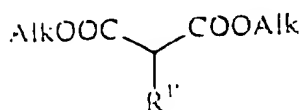
are reacted, ~~for example~~ with compounds of the general formula (X), (Xa), (Xb) or (Xc)



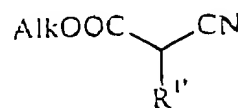
(X)



(Xa)



(Xb)



(Xc)

in which

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R' represents the optionally substituted cycloalkyl radical listed above under R¹;

Alk represents straight-chain or branched alkyl having up to 8 carbon atoms, ~~preferably up to 4 carbon atoms;~~

and

Z represents an NH₂ group, a monoalkylamino group having up to 7 carbon atoms, a dialkylamino group having up to 7 carbon atoms, a piperidiny1 or morpholinyl radical which is attached via the nitrogen, hydroxyl, alkoxy having up to 7 carbon atoms, acyloxy having up to 7 carbon atoms or aryloxy having 6 to 10 carbon atoms,

and, in the case of the groups -S(O)_cNR⁶R⁷ and -S(O)_cNR⁶R⁷, starting from the unsubstituted compounds of the general formula (I), reacted initially with thionyl chloride and, in a second step, with the appropriate amines

~~and, if appropriate,~~ the substituents listed under X, Y, R¹, R², R³ and/or R⁴ are modified or introduced by ~~customary methods, preferably by~~ acylation of free amino groups or hydroxyl groups, chlorination, catalytic hydrogenation, reduction, oxidation, removal of protective groups and/or nucleophilic substitution.

7. Medicaments, comprising at least one compound of the general formula (I) according to Claim 1.

and a pharmaceutically acceptable carrier.

8. ~~Process for preparing medicaments, characterized in that at least one compound of the formula (I) according to Claim 1, if appropriate with customary auxiliaries and additives, is converted into a suitable administration form.~~ canceled
- 5 9. Medicaments, comprising at least one compound of the general formula (I) according to Claim 1 in combination with organic nitrates or NO donors.
- 10 10. Medicaments, comprising at least one compound of the general formula (I) according to Claim 1 in combination with compounds which inhibit the degradation of cyclic guanosine monophosphate (cGMP).
11. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments.~~ canceled
- 15 12. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments for the treatment of cardiovascular diseases.~~ A method of treating a ~~comprising administering to a mammal an effective amount of a compound according to Claim 1.~~
13. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments for the treatment of hypertension.~~ the method of claim 12, wherein said cardiovascular disease is
- 20 14. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments for the treatment of thromboembolic disorders and ischemia.~~ A method of treating ~~comprising administering to a mammal an effective amount of a compound according to Claim 1.~~
- 25 15. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments for the treatment of sexual dysfunction.~~ A method of treating a
16. ~~Use of compounds of the general formula (I) according to Claim 1 for preparing medicaments having antiinflammatory properties.~~ A method of treating inflammation
17. ~~Use according to any of Claims 11 to 16 where the compounds of the general formula (I) according to Claim 1 are used in combination with organic nitrates~~ The method of claim 12, 13, 14, 15 or 16, ~~administered~~ an

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or NO donor ~~/ or in combination with compounds which inhibit the degradation~~
~~of cyclic guanosine monophosphate (cGMP)~~